

Obstacle Avoiding Car with Vacuum Cleaner

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Abstract: *Efficient cleaning solutions are essential for smart homes and industrial automation. "An IoT-Based Obstacle-Avoiding Car with Vacuum Cleaner" is an innovative system that automates floor cleaning while avoiding obstacles in real time. The system integrates an Arduino microcontroller, ultrasonic sensors, and a motorized vacuum cleaner to detect and clean dirt efficiently. A Python middleware processes sensor data and updates a MySQL database, while an Android app enables real-time monitoring and control. This solution minimizes manual effort, enhances cleaning efficiency, and supports smart home automation. Future enhancements may include AI-based navigation, cloud connectivity, and machine learning for optimized cleaning routes.*

Keywords: Smart Cleaning, IoT, Arduino, Ultrasonic Sensor, Obstacle Avoidance, Vacuum Cleaner, Python Middleware, MySQL